



# FU 410/415/420/425 M Silk<sup>®</sup> Nova All Black N-Type MBB half-cut cells

## **PERFORMANCE GUARANTEE**

Max power decrease from 2<sup>nd</sup> year 0,4%/year 99% at the end of first year 92% at the end of 20th year 89% at the end of 25<sup>th</sup> year



<b>+10</b>	-	425	W	р

POWER RANGE

-0.29	%/°C	

TEMPERATURE COEFFICIENT



# **108 N-TYPE MBB HALF-CUT** CELLS



CERTIFICATIONS

Ongoing IEC 61215 - IEC 61730



# **GENERAL FEATURES & KEY BENEFITS**



## • 25-year performance guarantee & 15-year product warranty

- Elegant all black front side design
- Up to **21.8%** module **efficiency** equal to 218 Wp/m<sup>2</sup>



- Two independent section design secures a higher energy vield under shaded conditions
- · Lower risk of micro-cracks and hot-spot
- Less shades and more reflected light to the cell thanks to the round ribbon
- · Resistant to LID (Light Induced Degradation) and LeTID (Light and elevated Temperature Induced Degradation)



- · Long cable as standard suitable for landscape configurations
- Excellent temperature coefficient -0.29 %/°C
- · Improved low light performance
- · Increased light absorption



## MECHANICAL SPECIFICATIONS

Dimensions	1722 x 1134 x 30 mm
Weight	20.8 kg
Glass	High transmission, Low iron, Tempered, ARC, Thickness, 3.2 mm
Cells	108 half-cut MBB N-Type cells 182 X 91 mm
Frame	Anodized aluminium frame with mounting and drainage holes
Junction boxes	Certified according to IEC 62790, IP 68 approved, 3 bypass diodes
Cables	Solar cable, length 1100 mm or customized assembled with 4 mm² compatible connectors
Maximum reverse current (Ir)	25 A
Maximum system voltage	1000 V (1500 V on request)
Mechanical load (snow)	Design load: 3600 Pa 5400 Pa (including safety factor 1.5)
Mechanical load (wind)	Design load: 1600 Pa 2400 Pa (including safety factor 1.5)
Protection Class	II - accordance to IEC 61730



Note: dimensions in mm, tolerance +/- 2 mm

ELECTRICAL DATA - STC*		FU 410 M	FU 415 M	FU 420 M	FU 425 M
Module power (Pmax)	W	410	415	420	425
Open circuit voltage (Voc)	V	37.68	37.87	38.06	38.25
Short circuit current (Isc)	A	13.94	14.01	14.09	14.17
Maximum power voltage (Vmpp)	V	31.11	31.30	31.49	31.67
Maximum power current (Impp)	A	13.18	13.26	13.34	13.42
Module efficiency	%	21	21.3	21.5	21.8

ELECTRICAL DATA - NMOT**		FU 410 M	FU 415 M	FU 420 M	FU 425 M
Module power (Pmax)	W	308	312	316	320
Open circuit voltage (Voc)	V	35.82	35.99	36.18	36.36
Short circuit current (Isc)	А	11.24	11.31	11.38	11.44
Maximum power voltage (Vmpp)	V	29.03	29.19	29.32	29.48
Maximum power current (Impp)	A	10.62	10.69	10.77	10.84

### **TEMPERATURE RATINGS**

Temperature coefficient lsc	%/°C	0.045
Temperature coefficient Voc	%/°C	-0.25
Temperature coefficient Pmax	%/°C	-0.29
NMOT**	°C	45±2
Operating temperature	°C	from -40 to +85

### PACKAGING INFORMATION

Quantity / Pallet	36 pcs
Container 40' HQ	936 pcs / 26 pallets

"Standard Test Conditions STC: 1000 W/m² - AM 1.5 - 25 °C - tolerance: Pmax (±3%). Voc (±4%). Isc (±5%). "Nominal Module Operating Temperature NMOT: 800 W/m² - T=45 °C - AM 1.5. Notice: All data and specifications are preliminary and subject to change without notice.



Riva del Pasubio, 14 35013 Cittadella Italy Tel + 39 049 5979802 | info@futurasun.it www.futurasun.com

